

# SERVQUAL Measurement in a Healthcare Setting: Before and After Corrective Strategy Implementation

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## Abstract

In the United States, the most dominant industry is services, yielding the highest volume of total employment and gross domestic product. Due to this significance, academics, as well as, business professionals continue to research and apply strategies for which organizations can achieve distinctive competitive advantages. The steady growth and increasing significance of the service sector in the US and other developed markets has resulted in a sizeable body of related research addressing a variety of issues such as service quality and its characteristics. Healthcare is an impactful service industry that has received a considerable amount of attention. In the healthcare field, studies have shown that a variety of variables impact the perception of service quality. In a highly competitive environment, it is in an organization's best interest to provide customers the best service possible. This paper asserts that service quality is more accurately measured using a before and after strategy implementation study. This paper applies the SERVQUAL evaluation tool to assess service quality expectations and perceptions in a healthcare setting. Particularly, this study proposes that service quality improves following a correction of service related issues and can help provide some insight into the types of customers or patients that patronize healthcare facilities.

## Introduction

The services industry represents a major portion of total employment and gross domestic product in the United States. Services are often characterized by intangibility, inseparability, heterogeneity and perishability (Lovelock, 1996; Hoffman & Bateson, 2006). The characteristics vary by time, organization, and situation. Therefore, it is very useful to understand and consider these unique characteristics before defining service quality (Lovelock, 1996; Hoffman & Bateson, 2006). These characteristics make it difficult for customers to evaluate services at preconsumption, consumption, and postconsumption stages of customer decision-making, compared to products (Hoffman & Bateson, 2006). They also make it difficult for an organization to understand how its customers perceive the quality of its services (Zeithaml, 1985). As a result, quality of services deserves closer examination (Kassim and Zain, 2010).

Acquiring a competitive edge in the services sector is a key driver for an organization's potential success and profitability. This principle is prevalent in all industries, including various types of nonprofits and profit seeking organizations. Providing superior quality in service experiences is an effective approach to acquire a desired advantage. The growth and increasing significance of the service sector in developed markets like the US has spawned a sizeable body of related research addressing a variety of issues such as service quality and its dimensions. To address these important gaps, this research explores the distribution pattern of service failures/delights and their impact on service quality perceptions. The interaction between service provider and customer is the primary core of the service businesses of different natures (Ching-Sheng, Su-Yueh, and Yi-Ting, 2013). Service quality measurement has been implemented in a variety of fields. Particularly, service quality has been used successfully in several areas of healthcare. In healthcare, the service experience usually involves a series of events or phases of interaction between a medical office and patient. Within the phases, performance can meet, exceed, or not meet the patient's expectations. This article contributes to the literature by examining how the measurement of service quality provides insight into the outcome of healthcare service performance after strategy improvement.

This research makes several contributions to the literature. First, using the SERVQUAL instrument (Parasuraman, Zeithaml, and Berry, 1988) to measure service quality, we propose a conceptual framework to effectively examine the temporal pattern of service delivery affecting service quality perceptions. Since many factors can affect service quality perceptions, it is very useful to measure service quality more than once to examine the effect of time on service quality. Second, this research views service delivery as a continuous process and evaluates the dynamics involved in double measurements of service quality. Third, we compare SERVQUAL measurement across two occasions to capture the complicated nature of multiple possibilities of service failures/delights (Sivakumar, Li, and Dong 2014), more precisely. Duplicating service quality measurement should provide a more realistic picture of the complex situations in service encounters.

## Literature Review

### **Service Quality**

As competition intensifies, customer expectations increase, organizations are not only interested in maintaining existing customers, but growing clientele. Since the vast majority of companies depend on repeat business, a heavy emphasis on the influences on service quality has evolved. Service quality remains one of the most significant areas in marketing. Attempts to define, describe, and identify service quality and its predictors abounds the marketing literature. Service quality is especially significant to marketers for two reasons. First, this concept determines the success or failure of service providers. Secondly, the implementation of service quality influences the rate of acceptance of the service. Thus, research on service quality has implications for the adoption and diffusion of services across industries. This study will examine

some of the existing issues on consumer service quality, then suggest practical and theoretical relevance.

Importantly, researchers and practitioners must recognize relevant variables involved in service quality. When examining service quality, it is necessary to incorporate an approach that considers the concept that service delivery fluctuates. Most studies that have reviewed service quality at one point in time, focused only on one measurement. This paper argues that a more accurate measure of service quality stems from multiple measures. Researchers have long touted the significance of longitudinal measurement in service and other practices. Applying this approach remains important to marketers because it helps with segmentation, targeting, positioning, and strategy decisions. This paper will describe service quality and its outcomes by applying and analyzing two distinct measures over time.

A careful and extensive review of extant literature on service quality reveals that several variables affiliated with service quality have been proposed over the past two decades. Most practitioners would argue that there is no single predictor of service quality. Given the failure to find empirical support for a concept of service quality that is generalizable over a wide range of services, it is not surprising that differing profiles of consumers would be found for different types of services. Several researchers have tabulated the complex and contradictory nature of the empirical studies relating service quality to personality, attitudinal, social and demographic factors. For such factors, there are numerous studies suggesting both positive and negative relationships with service quality and many indicating no relationship whatsoever. To adequately study this phenomenon, several criteria must be taken into consideration. This paper contends that service quality measurement influences actual improvements in service. This study will evaluate this assertion.

In the context of service experiences, complex situational and environmental effects intervene between the service and the perception of service quality. Studies have shown that quality is a key determinant of market share and return on investment as well as cost reduction (Parasuraman, Zeithaml, and Berry 1985). In addition, service quality is a vital antecedent of customer satisfaction. In turn, customer satisfaction leads to developing and maintaining loyal customers who may become advocates for a firm and promote the organization further by making positive referrals through credible word-of-mouth communication (Guiry & Vequist, 2011).

## **Service Quality in Healthcare**

In developed and developing markets, services marketing is growing in size and becoming increasingly significant in manufacturing industries. Additionally, enhancing patients' experiences has become a challenge for healthcare management as they tend to see patient as ordinary consumers rather than healthcare services consumers (Al-Neyadi, Abdallah, and Malik, 2018).

This increasing emphasis on services marketing has created an extensive breadth of related research addressing a large variety of issues in measuring the concept of service quality and its dimensions. Service quality has been described as a global judgment, or attitude, related but not equivalent to satisfaction, which results from the comparison of expectations with perceptions of service performance (Bolton & Drew, 1991). The scale items that define service quality in one industry may be different in another (Cronin and Taylor, 1992). In a healthcare context, patients' expectations are formed as a result of previous experiences with the provider, word-of-mouth communication, social media, marketing communications, and personal needs (Parasuraman, Zeithaml, & Berry, 1985). Patients' perception on the quality of services is an essential indicator utilized to measure the performance of a healthcare facility (Al-Neyadi, Abdallah, and Malik, 2018).

Since the seminal piece by Parasuraman, Zeithaml, and Berry (1988), the SERVQUAL measurement tool has been applied in fields that span the service industry spectrum. One very interesting application is in the areas of marketing and managing healthcare. There have been several service quality studies in the healthcare. SERVQUAL is used to measure the gap between patient expectation and perception of actual service. Generally, Parasuraman, Zeithaml, and Berry (1988) have defined the service quality concept in terms of five major dimensions:

- Tangibles: Appearance of physical facilities, equipment, personnel, and communication materials
- Reliability: Ability to perform the promised service dependably and accurately
- Responsiveness: Willingness to help customers and to provide prompt service
- Assurance: Knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy: Providing caring, individualized attention to customers

According to Lal, Vij, and Jain (2014), the increased emphasis on quality in medical services is attributable to benefits which both patients and medical service facilities may acquire from providing quality medical service. Some of the benefits received by medical patients include a more effective and efficient service (Nelson, 1990). The benefits enjoyed by medical services primarily evolve from having more satisfied patients. This is important as satisfied patients may develop more positive perceptions of health care delivery and these perceptions should act to provide health care organizations with: more loyal customers, more compliant customers, enhanced image, less staff turnover and increased efficiency (Lal, Vij, and Jain, 2014). Considering that there are numerous factors that influence service quality perceptions, his study is designed to determine if there is difference between patients' perceptions of service quality and their demographic characteristics. This evaluation leads us to hypotheses that evaluate each of the service quality dimensions. This paper uses SERVQUAL as a diagnostic and analytic tool.

## Service Quality and Longitudinal Measurement

Management needs to recognize that service quality is not a fad but an ongoing commitment (Watson, Pitt, and Kavan, 1998). This study is very unique, since it provides more than one measure of service quality for the same facility. There are minimal studies on evaluating service quality more than once for an organization. Service quality was measured twice for this medical office. The prime purpose of this paper is to determine whether there was an increase in service quality between the first and second measurements. This study uses a variation of longitudinal measurement by comparing/contrasting SERVQUAL outcomes across two groups a year apart, for the same medical office. Previous longitudinal research on service quality has suggested that delivering service quality requires action at three levels - strategic, tactical, and operational (Watson, Pitt, and Kavan, 1998).

### Hypotheses

Five hypotheses regarding strategic changes in customer service practices and any effect on service perception were developed H1-H5:

- H1: Service quality perceptions of the office tangibles will improve under the new customer service strategic changes.
- H2: Service quality perceptions of staff reliability will improve under the new customer service strategic changes.
- H3: Service quality perceptions of staff responsiveness will improve under the new customer service strategic changes.
- H4: Service quality perceptions of staff assurance will improve under the new customer service strategic changes.
- H5: Service quality perceptions of staff empathy will improve under the new customer service strategic changes.

### Method

The authors utilized two sample independent t-testing to detect any statistically significant differences in the importance of patient perceptions regarding factors that affect service quality in a large obstetrician and gynecological medical practice ((Moore, McCabe, Alwan, & Craig, 2016). A nationally normed (for validity and reliability) survey of quality of service named SERVQUAL was administered to two groups of patients over two distinct study periods. The survey instrument utilizes a 7 point Likert scale (anchored from strongly disagree to strongly agree) to measure patient satisfaction with the medical services provided.

Sample 1 (survey of patient ratings with the practice’s previous customer service strategies) size was n = 363 and sample 2 (survey of patient ratings with the practice’s new customer service strategies) size was n=369. These two samples sizes give adequate statistical power to infer any difference in ratings of perceptions of service quality are not the result of chance.

The surveys data record patients’ ratings of perceptions of service quality on five dimensions:

Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The medical practice adjusted customer service strategies based on the result of responses from patients in sample 1. This study analyzes any increases/decreases in service ratings after the adjusted customer service strategies were implemented.

Data of patient ratings of perceptions of service quality on the five dimensions were analyzed using the two-sample independent t-testing function in the statistical software package SPSS. Sample 1 survey ratings were collect under previous customer service strategies of the medical practice whereas sample 2 survey ratings were collect under new customer service strategies implemented by the medical practice.

## Results

Table 1 below shows the mean response rating of perceptions of service quality on each of the five dimensions. Table 1 lists the statistically significant rating changes on each service dimension. The results of the t-test of each hypothesis are presented.

SERVQUAL Service Quality Dimensions	Previous Ratings	Current Ratings
Tangibles		
Question 1: Modern looking equipment?	6.21	6.13
Question 2: Offices are visually appealing?	6.33	6.26
Question 3: Staff have neat appearances?	6.39	6.41
Question 4: Info-materials are visually appealing?	6.20	6.16
Reliability		
Question 5: Staff is timely?	5.72	6.06**

Question 6: Staff solves problems?	6.22	6.30
Question 7: Performs service right the first time?	6.30	6.44*
Question 8: Staff keeps promises?	5.92	6.22**
Question 9: Keep accurate records?	6.23	6.52*
Responsiveness		
Question 10: Staff promptly inform patients?	6.31	6.41
Question 11: Staff provide prompt service?	5.91	6.20**
Question 12: Staff are always willing to help?	6.39	6.43
Question 13: Staff never too busy to respond to patients?	6.01	6.12
Assurance		
Question14: Staff behaves confidently?	6.36	6.39
Question15: Patients feel safe in all transactions?	6.48	6.55
Question16: Staff are courteous?	6.43	6.49
Question17: Staff have the knowledge to answer patients' questions?	6.55	6.60
Question18: Staff give individual attention?	6.55	6.60
Empathy		
Question 19: Convenient operating hours?	6.29	6.32

Question 20: Staff give personal service?	6.41	6.44
Question 21: Staff has patient's best interest at heart?	6.51	6.50
Question 22: Staff is understanding of patients' needs?	6.48	6.51

Significance \*  $p < 0.10$ , \*\*  $p < 0.05$

Table 12 Two-sample Independent T-Test Results

### Tests of Hypotheses

H1: Service quality perceptions of the office tangibles will improve under the new customer service strategic changes.

H1 is not supported. The two-sample t-test indicates no statistically significant change in rating means on tangibles.

H2: Service quality perceptions of staff reliability will improve under the new customer service strategic changes.

H2 is supported. The two-sample t-test indicates an increase on all item ratings means for reliability. Four of the five mean rating increases were statistically significant.

H3: Service quality perceptions of staff responsiveness will improve under the new customer service strategic changes.

H3 is partially supported. The two-sample t-test indicates an increase on all item ratings means for responsiveness. However only one of the five mean rating increases were statistically significant.

H4: Service quality perceptions of staff assurance will improve under the new customer service strategic changes.

H4 is not supported. The two-sample t-test indicates no statistically significant change in rating means on assurance.

H5: Service quality perceptions of staff empathy will improve under the new customer service strategic changes.

H5 is not supported. The two-sample t-test indicates no statistically significant change in rating means on empathy.

In order to get a clearer picture of the perceptions of the respondents, it was important to examine the determinants of service quality based on the five different dimensions. Comparing the means of each dimension, SRVQUAL revealed improvements in reliability and responsiveness, with minor increases in assurance and empathy. Statistically, the notable dimensions of improvement are reliability and responsiveness. Particularly, we can apply Cohen, Cohen, West, & Aiken's (2003) recommendations, absolute values of less than 0.10 indicate a "small" effect; values of around 0.30 a "medium" effect; and "large" effects may be suggested by absolute value of 0.50 or more. Within the reliability dimension, three items showed a medium effect increase, and one item had a small effect increase. For the responsiveness element, one of the four items improved with a medium effect, while two of the items increased with a small effect. The only area that did not show evidence of improvement was the Tangibles dimension.

### Managerial Implications

From a managerial perspective, it is very important that the medical office measure service quality continuously. In fact, service quality and patient satisfaction are important factors in retention. Patient retention has received increased attention nowadays because of the recent proposed healthcare reforms, which has created angst amongst many patients. The improvement areas in this research represent a strength for the medical practice and serve as building blocks for competitive advantage.

Specifically, waiting time plays an important role in the satisfaction level among clientele. The length of time by which patients that are to be attended gives them the impression of being cared for or neglected, thus directly affecting patient satisfaction. Length of waiting time is determined by several factors, including current load which result in slower phase of service (Al-Neyadi, Abdallah, and Malik, 2018). Perhaps consumers do not necessarily buy the fastest or highest quality service; convenience, price, or availability may enhance satisfaction while not actually affecting consumers' perceptions of service quality (Cronin and Taylor 1992).

The "health care service quality evaluation must find a way, which encompasses expectations and needs of every party involved" (Piligrimiene and Buoninoine, 2008). To narrow patient and provider gaps, Chowdhury (2008) suggests conducting continuous market research to find out customers' requirements and maintain relationship marketing to build up customer loyalty. This research subscribes to that philosophy of multiple measures.

Moreover, overall satisfaction with a service is a result of a complex process involving the interrelationships between many dimensions. Thus, an understanding of the potential effects of individual dimensions helps managers to design or operate their service processes by industry. Perhaps high involvement services such as healthcare or financial services have different service

quality definitions than low involvement services such as fast food or dry cleaning (Cronin and Taylor 1992). Hence, accurately defining service quality is just as meaningful as reliably measuring it.

### Study Limitations, Future Research, Conclusions

Generally, service quality is an antecedent of consumer satisfaction and that consumer satisfaction exerts a stronger influence on purchase intentions (or repeat visits) than does service quality. One limitation for this study is that it measured service quality, only, and not patient satisfaction. Thus, managers may need to emphasize total customer satisfaction programs over strategies centering solely on service quality. Another limitation is that the same group was not measured over time for a true longitudinal design. We made the assumption that the improved SERVQUAL results are a product of true service advancements and not specific to the group used in the second sample. Therefore, a future study should consider measuring the same group more than once. In conclusion, to compete more efficiently and effectively in the marketplace, healthcare facilities must be sensitive in meeting patient' expectations for tangibles, reliability, responsiveness, empathy, and assurance.

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**Relevance to Marketing Educators, Researchers, and Practitioners:**

A study of service quality dimensions: reliability, assurance, tangibles, empathy, and responsiveness.

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